

ATCC 21523 MSTHTSSTLPAFKKILVANRGEIAVRAFRAALETGAATVAIYP
 NRRL-B11474 MTAITLGGLLLKGIIITLV

10 20 30 40
 50 60 70 80 90 100

ATCC 21523 REDRGSFHRSFASEAVRIGTEGSPVKAYLDIDEIIGAAKKVKADAIYPGYGFLSENAQLA
 NRRL-B11474

110 120 130 140 150 160
 ATCC 21523 RECAENGITFIGPTPEVLDLTGDKSRAVTAAKKAGLPVLAESTPSKNIDEIVKSAEGQTY
 NRRL-B11474 D

170 180 190 200 210 220
 ATCC 21523 PIFVKAVAGGGGRGMRFVASPDELRKLA TEASREAAFGDGAVYVERAVINPQHIEVQI
 NRRL-B11474 S S

230 240 250 260 270 280
 ATCC 21523 LGDHTGEVVHLYERDCSLQRRHQKVVEIAPAAQHLDPELRDRICADAVKFCRSIGYQGAG
 NRRL-B11474 R

290 300 310 320 330 340
 ATCC 21523 VEFLVDEKGHNHFIEMNPRIQEHTVTEEVTEVDLVKAQMRLAAGATLKELGLTQDKIKT
 NRRL-B11474

350 360 370 380 390 400
 ATCC 21523 HGAALQCRTTEDPNNGFRPDTGTITAYRSPGGAGVRLDGAAQLGGEITAHDSDLVKMT
 NRRL-B11474

410 420 430 440 450 460
 ATCC 21523 CRGSDFETAVARAQRALAEFTVSGVATNIGFLALLREEDFTSKRIATGFIADHPHLLQA
 NRRL-B11474 G

470 480 490 500 510 520
 ATCC 21523 PPADDEQGRILDYLADVTVNPKPHGVRPKDVAAPIDKLPNIKDLPLPRGSRDRLKQLGPAA
 NRRL-B11474

530 540 550 560 570 580
 ATCC 21523 FARDLREQDALAVTTFRDAHQSLLATRVRSFALKPAAEAVAKLTPELLSVEAWGGATY
 NRRL-B11474

590 600 610 620 630 640
 ATCC 21523 DVAMRFLFEDPWDRLDELREAMPVNQMLLRGRNTVGYPYDPSVCRAFVKEASSGVD
 NRRL-B11474

650 660 670 680 690 700
 ATCC 21523 IFRIFDALNDVSQMRPAIDAVLETNTAVAEVAMAYSGDLSDPNEKLYTLDYYLKMAEEIV
 NRRL-B11474

710 720 730 740 750 760
 ATCC 21523 KSGAHILAIKDMAGLLRPAAVTKLVTALREFDLPVHVHTHDTAGQLATYFAAAQAGAD
 NRRL-B11474

770 780 790 800 810 820
 ATCC 21523 AVDGASAPLSGTTSQPSLSAIVAAFHRRDTGLSLEAVSDLEPYWEAVRGLYLPFESGT
 NRRL-B11474

FIG. 2A

ATCC 21523 ○ PGPTGRVYRHEIPGGQLSNLRAQATALGLADRFELEDNYAAVNEMLGRPTKVTPSSKVV
NRRL-B11474 ○

ATCC 21523 ○ GDLALHLVGAGVDPADFAADPQKYDIPDSVIAFLRGELGNPPGGWPEPLRTRALEGSEG
NRRL-B11474 ○

ATCC 21523 ○ KAPLT EVPEEEQAHLDADD SKERRNSLNRLFPKPTEEFLEHRRRFGNTS ALDDREFFY
NRRL-B11474 ○

ATCC 21523 ○ LVEGRETLIRLPDVRTPLLVRLD AISEPDDKGMRNVANVNGQIRPMRVRDRSVESVTAT
NRRL-B11474 ○

ATCC 21523 ○ AEKADSSNKGHVAAPFAGVVTVTVAEGDEVKAGDAV AII EAMKMEATITASVDGKIDRVV
NRRL-B11474 ○ E

ATCC 21523 ○ VPAATKVEGGDLIVVVS
NRRL-B11474 ○

FIG. 2B